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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,768	07/15/2003	Ken A. Bradenbaugh	010121-9931	8777
23409	7590	06/25/2004	EXAMINER	
MICHAEL BEST & FRIEDRICH, LLP 100 E WISCONSIN AVENUE MILWAUKEE, WI 53202			CAMPBELL, THOR S	
			ART UNIT	PAPER NUMBER
			3742	

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/619,768

Applicant(s)BRADENBAUGH, KEN A. **Examiner**

Thor S. Campbell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 21-31 and 34-46 is/are rejected.
- 7) ☒ Claim(s) 20, 32, 33 and 47 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 09/29/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

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DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-12, 14-19, 21-25, 27-31, 34-43, and 45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradenbaugh (US 5831250) in view of DeSantis (US 6516141).

Bradenbaugh discloses a water heater including *inter alia* a vessel, a controller configured to selectively generate a signal based on a temperature of the water in the vessel, a switch connectable to the power source, connected to the controller and configured to conduct power from the power source in response to the signal; and a heating element connected to the switch to receive the power. Bradenbaugh does not discuss the use of a thermally conductive mounting device coupled to the exterior surface of the vessel and having a heat dissipating element coupled to a base having a first and second surface in order to dissipate heat generated by the device that may cause the electronics to not function properly.

DeSantis discloses a water heater employing a thermally conductive mounting device coupled to the exterior surface of a vessel wall, the mounting device comprising a base having first and second surfaces substantially following the contour of the vessel and a heat dissipating element to dissipate the heat generated in the mounting device, and

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a controller in the form of a thermostat coupled to the mounting device for sensing the temperature of the water in the vessel.

It would have been obvious to one of ordinary skill in the art at the time the invention was made, in view of DeSantis, to modify the device of Bradenbaugh to include a mounting device having a heat dissipation element in order to both dissipate heat generated by the heating element in a dry fire condition as well as to dissipate heat generated by the heating element and the electronic control circuitry.

With respect to claims 18-19 and 46, the limitations amount to a duplication of working parts. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the heat dissipation means to a plurality of controlled heating elements, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art.

Claims 13, 26, and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bradenbaugh in view of DeSantis and Reusche et al. (US 6151448).

Bradenbaugh and Desantis disclose the claimed invention as above except specifically using epoxy. With respect to claims 13, 26, and 44, DeSantis discloses the claimed limitations except that instead of the mounting device coupled to the vessel with a thermally conductive epoxy, it is coupled using silicone bushings. Reusche shows that silicone and epoxys are equivalents in the art. Therefore, because these two thermally conductive materials were art-recognized equivalents at the time the invention was made, one of ordinary skill in the art would have found it obvious to substitute epoxy for silicone.

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Allowable Subject Matter

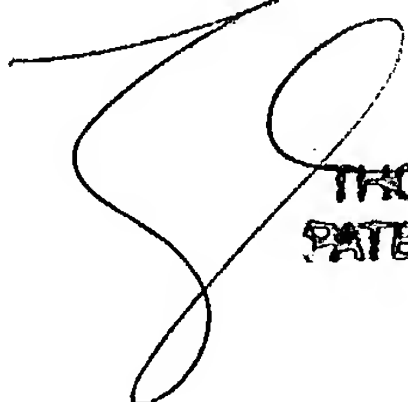
Claims 20, 32-33, and 47 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thor S. Campbell whose telephone number is 703-306-9042. The examiner can normally be reached on Tue-Fri 5:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 703-305-5766. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TSC
6/23/04


THOR CAMPBELL
PATENT EXAMINER